

**FOURTH EDITION**

# **Fluid, Electrolyte, & Acid-Base Physiology**

**A PROBLEM-BASED APPROACH**

**Halperin, Goldstein, & Kamel**

**SAUNDERS**  
ELSEVIER

مادة محمية بموجب حقوق النشر

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## chapter 1

# Principles of Acid-Base Physiology

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## Introduction

Our goal in this chapter is to describe the physiology of hydrogen ions ( $H^+$ ). It quickly becomes apparent that many issues are difficult to understand unless one stops frequently to examine the “big picture.” For example, based on the chemistry,  $H^+$  are the smallest ions (atomic weight 1) and their concentration in body fluids is tiny (a millionfold lower than that of  $HCO_3^-$ , their major

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